

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-143 (Cancelled).

144. (New) A composition comprising a metal nanoparticle bound to a synthetic peptide or a synthetic protein which selectively binds to the metal nanoparticle.

145. (New) The composition of claim 144, wherein the metal nanoparticle is bound to the synthetic protein.

146. (New) The composition of claim 144, wherein the metal nanoparticle is bound to the synthetic peptide.

147. (New) The composition of claim 146, wherein the synthetic peptide comprises a synthetic peptide which selectively nucleate the metal nanoparticles from a solution.

148. (New) The composition of claim 147, further comprising a plurality of the metal nanoparticles and a plurality of synthetic peptides which selectively bind to the metal nanoparticles.

149. (New) The composition of claim 148, wherein the nanoparticles are magnetic.

150. (New) The composition of claim 144, wherein the metal nanoparticle comprises a metal alloy nanoparticle.

151. (New) The composition of claim 150, wherein the metal alloy comprises a cobalt alloy.

152. (New) The composition of claim 144, wherein the metal nanoparticle comprises a pure metal nanoparticle.

153. (New) The composition of claim 152, wherein the metal comprises cobalt.

154. (New) A method of making the composition of claim 144, comprising:

providing the synthetic peptide or the synthetic protein which selectively binds to the metal nanoparticle; and

contacting the synthetic peptide or the synthetic protein with one or more metal precursors to nucleate the metal nanoparticle on the synthetic peptide or the synthetic protein.

155. (New) The method of claim 154, wherein the one or more metal precursors are provided in a solution.

156. (New) The method of claim 154, wherein the synthetic peptide is provided and contacted with one or more metal precursors.

157. (New) The method of claim 154, wherein the synthetic protein is provided and contacted with one or more metal precursors.